

AUG. 7. 2006 2:24PM INVISTA

NO. 412 P. 9

Serial No. 10/786,685

RD8470 US NA

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AUG 07 2006REMARKS/ARGUMENTS

Claims 1, 3-10 and 12-14 are pending in the application. Claim 1 has been amended, and claim 3 has been canceled by way of the present amendment to place the application in better condition for appeal.

The rejection of claims 1, 3-10 and 12-14 under 35 U.S.C. §103(a) as being unpatentable over Locke et al. (U.S. Patent No. 5,756,020) in view of Reinerhr et al. (U.S. Patent No. 4,087,494) and Hixon et al. (U.S. Patent No. 5,445,653) is respectfully traversed in view of the amendments made to claim 1.

The Examiner did not accept Applicant's arguments filed on 2/15/06, and pointed (1) the claim 1 is open to the exclusion of other components because of word "comprising"; (2) the reference was used to teach the advantages of over dyeing; (3) off-white is frequently grey-white; and (4) "off-white" is not a claim limitation. Amended claim 1 addresses (1) and (4) in that the phrase "comprising" has been changed to "consisting essentially of".

The Examiner cited Reinehr et al., US 4, 087, 494 and Hixon et al., US 5, 445, 653, and claimed that they taught the advantages of over dyeing. Both of the prior arts actually teach away from the present invention.

Reinehr et al. disclose a process of adding carbon black into acrylic polymer before making a fiber then over dyeing the fiber (column 1 lines 35-39). Reinehr et al. further disclose that the addition of carbon black will add dark shades into the fiber and thus save the amount of dye required for the final product. Therefore, the teaching can only be used to make fiber with dark colors, such as, for example, dark brown (column 2 lines 22-31). Moreover, Reinerhr et al. describe that the invention cannot be used to make fibers with any light yellow, red or green shades.

In contrast, the present invention is directed to producing fibers of light yellow, red, and/or green shades with the benefit of color fastness by adding a small amount of any color pigment except for carbon black into a polymer and then over dyeing. Those skilled in the art cannot extend the teachings of Reinerhr et al. to achieve the present invention.

Similarly, Hixon et al. mention that solution dyed nylon will not wash out or bleed during further dyeing treatment. Hixon et al. further disclose that the solution dyed nylons are available in only a few solid color thus there is a limit to the designs available (column 1 lines 37-45). The Examiner then cited that Lock et al. taught a process to make a larger variety of colored shades of nylon yarns using pigments. The Examiner concluded that the

Serial No. 10/786,685

RD8470 US NA

~~combined prior art teachings of Hixon et al. and Lock et al. would teach over dyeing the~~  
~~pigmented nylon yarns to a large variety of colors. However, the combination of the prior~~  
arts only teach over dyeing the pigmented nylon yarns using similar color shades of dyes. The over dyed nylon yarns are still limited to the colors of pigmented yarns. From Applicant's previous argument, the technique disclosed in the prior art references would cause one to maintain a huge inventory of pigmented yarns with various colors to meet the market demands. Only Applicant realized the problem and found a solution in the present invention. Now it is possible to make a variety of color shades of nylon yarns with color fastness and without any inventory.

The prior art only teach over dyeing pigmented fibers that have visible shades so that the amounts of dye with similar color as the fibers can be saved. Nobody in the prior arts teaches over dyeing the pigmented fibers without any color shades to get the benefit that the Applicant obtains.

Finally, for the ordinary people skilled in the art, "off-white" is different from "grey-white". Off-white has discernable hue. Colors having hue are known as chromatic colors such as a green, yellow, or purple hue. White, black and grays possess no hue. Thus, grey-white has no discernable hue. It is a mixture of black and white only.

#### CONCLUSION

It is believed that the foregoing amendment and remarks constitute a complete response to the Examiner's FINAL Action dated May 9, 2006, and place this application in condition for allowance. Entry of the Amendment with a timely Advisory Action is respectfully requested.

Should the Examiner have any questions regarding this Amendment, or the remarks contained herein, Applicant's attorney would welcome the opportunity to discuss such matters with the Examiner. Applicant believes no extra fees are due with this request. However, if additional fees are required, please charge or credit the balance to Deposit Account 50-3223 (Invista North America S.à r.l.).

AUG. 7. 2006 2:25PM INVISTA

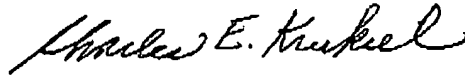
Serial No. 10/786,685

NO. 412 P. 11

RD8470 US NA

Date: August 4, 2006

Respectfully submitted,



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,685	02/25/2004	Sundar Mohan Rao	RD8470 US NA	3025
24199	7590	05/09/2006	EXAMINER	
DUPONT PERFORMANCE ELASTOMERS L.L.C.			HINSMANN, MARGARET V	
PATENT RECORDS CENTER			ART UNIT	
4417 LANCASTER PIKE, BARLEY MILL PLAZA P25			PAPER NUMBER	
WILMINGTON, DE 19805			1751	

DATE MAILED: 05/09/2006

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Please find below and/or attached an Office communication regarding this application or proceeding.

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Patent Center

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**Action Required**

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Application No.

10/786,685

Applicant(s)

RAO, SUNDAR MOHAN

**Office Action Summary**

Examiner

Margaret Einsmann

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 2/15/06
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 10 is/are pending in the application. 12-14
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Application/Control Number: 10/786,685

Page 2

Art Unit: 1751

**DETAILED ACTION*****Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-10, 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Locke et al., US 5,756,020 in view of Reinehr et al., US 4,087,494 and Hixon et al., US 5,445,653.

Locke et al. disclose a process of producing solution dyed extruded fibers wherein several colorants are mixed to form a large variety of colored polymer products. In the example in column 4, nylon 66 is colored "Weathered Tan" by mixing black, white, yellow and red pigments into the nylon 66 prior to spinning. These are the colors of the pigments added to the claimed process in applicant's claims. Regarding claim 7, Locke et al. discloses that copolymers of nylon containing 1-4% of the sodium salt of 5-sulfoisophthalic acid (cationically dyeable) nylon are particularly useful. Col 3 lines 15-17. Locke does not teach overdyeing, nor the particularly claimed amount of color pigment added or the particular pigments as claimed.

Reinehr et al. disclose a process of incorporating carbon black pigment into a polymer before spinning and extruding, and then overdyeing. They state that this method makes it possible to save considerable amounts of dyestuff. See abstract.

Application/Control Number: 10/786,685

Page 3

Art Unit: 1751

Hixon et al. states at col 1 lines 37 et seq. that incorporating pigments into nylon at the time the filaments are produced provides solution-dyed nylon in which the coloring will not wash out or bleed during further dyeing treatments, and that said nylon may be overdyed. He states that the problem with this process is that solution dyed nylon comes in only a few solid colors, which limits the creation of designs.

It would have been obvious to the man having skill in the art at the time the invention was made to overdyed the pigmented nylon 66 produced by the process of Locke et al. and thereby produce the claimed product because both Hixon and Reinehr teach advantages of pigmenting thermoplastic fibers before spinning and then overdyeing. Reinehr teaches in the abstract the first advantage in the abstract where it is stated that overdyeing carbon black pigmented fibers save a considerable amount of dyestuff. The examiner notes that the trichromatic system of dyeing is a system of mixing blue, red and yellow to formulate a wide variety of neutral shades including black. Accordingly the addition of the trichromatic mixture of pigments as claimed is akin to adding a black pigment to the solution of nylon. Regarding another advantage of the process of overdyeing pigmented polymers, Hixon teaches that optimum styling effects may be achieved by overdyeing solution dyed nylon, and discloses the need for a larger variety of colors of solution dyed nylon, which is the problem solved by Locke et al. Regarding the claimed amount of pigment added to the polymer in claims 2 and 3, a chemical engineer in the solution dyeing art has the experience and knowledge necessary to adjust the amount of pigment to achieve his desired shading effects. Regarding claim 8, a dye chemist knows that a polymer must be dyed with a compatible

Application/Control Number: 10/786,685

Page 4

Art Unit: 1751

dye, for example, if the polymer is cationic dyeable nylon, a cationic dye will be used.

Regarding the particular pigments claimed in claims 9-11, Locke does not disclose which pigments may be used. Accordingly, the process is deemed open to any and all pigments absent evidence to the contrary. Regarding claim 12, Locke does not name the white pigment in his example; however, titanium dioxide is the most widely used white pigment. Regarding the limitations of claims 13 and 14, Hixon et al. discloses that said solution dyed overdyed nylon is appropriate for yarns used in carpets and upholstery fabric. See col 1 line 12 and 13.

#### ***Response to Arguments***

Applicant's arguments filed 2/15/06 have been fully considered but they are not persuasive. Applicant amended the claims to include the pigment loading from claim 2 into claim 1. He states that Locke teaches 0.46 weight percent pigment which is outside of the claimed limit of 10 ppm to about 1000 ppm by weight of the fiber as is currently claimed. In response to this, this office respectfully submits that applicant is looking at a working example. A reference is not limited to its preferred embodiments. The amount of pigment used is disclosed at the last paragraph of col 1 where patentee states that 0.1 weight percent (1000 ppm) to 70 weight percent is the amount of pigment in each concentrate. Since this amount is further diluted when mixed with the thermoplastic polymer, applicant's upper limitation is included in the amount used in the process of Locke. Applicant further argues that Reinehr is now excluded as a reference because applicant has deleted the optional black pigment from the claims and Reinehr only



Application/Control Number: 10/786,685

Page 5

Art Unit: 1751

discloses grey pigmented yarn. In response to this argument, this office responds (1) the claim is open to the exclusion of other components because of the word "comprising" (2) the reference was used to teach the advantages of over dyeing (3) off-white is frequently grey-white and (4) "off-white" is not a claim limitation. Additionally, Applicant is directed to col 12 lines 7 et seq of Wang et al., US 5,908,663 which discloses pigmented off-white solution dyed nylon yarn, "Angelica." Using the teachings of both Hixon and Reinehr would motivate one skilled in the art to use Angelica as the base for overdyed carpet yarn. Accordingly the rejection is maintained as set forth in the previous action.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Application/Control Number: 10/786,685

Page 6

Art Unit: 1751

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret Einsmann whose telephone number is 571-272-1314. The examiner can normally be reached on 7:00 AM -4:30 PM M-W and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on 571-272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Application/Control Number: 10/786,685

Page 7

Art Unit: 1751

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

4/25/06

  
Margaret Ensmann  
Primary Examiner  
Art Unit 1751

<b>Notice of References Cited</b>		Application/Control No. 10/786,685	Applicant(s)/Patent Under Reexamination RAO, SUNDAR MOHAN	
		Examiner Margaret Einsmann	Art Unit 1751	Page 1 of 1

## U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,908,663	06-1999	Wang et al.	427/322
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

## FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

## NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title, Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office  
PTO-892 (Rev. 01-2001)

Notice of References Cited

Part of Paper No. 42506

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